18 August 1961

MEMORANDUM FOR: Chief, TP&DS 28 Aug 61

FROM: Acting Chief, TISD

SUBJECT: Addition of Grids to all Photography

1. The addition of a grid applied to the photography at the processing site would result in uniformity throughout all copies of the material produced. There are certain factors that should be considered in adopting such a grid.

A. Origin of the Grid: The origin of the grid should be such that no negative values are encountered. Preferably, origin is similar to a grid now in use with current photography; namely, the lower left corner of the format when the photography is oriented such that the direction of flight is directly away from the viewer.

B. Orientation of the Grid: Orientation, in addition to that mentioned in A above, should be such that the X axis is left to right and the Y axis near to far side, or bottom to top if viewed similarly to the way a person would view a map. The grid should be oriented parallel to the axis of the format and where the format is rotated with respect to the line of flight, the orientation should be in agreement with the yaw or swing of the format.

C. Labeling of Units: Numbers rather than letters should be used for both axes. The use of numbers is more adaptable to all formats, present and future, regardless of their size; whereas, letters may require the use of a double alphabet when the format is greater than 26 centimeters (approximately 10 inches). Also, numbers are more readily adaptable to subdivision which is almost certain to be necessary as resolution improves and greater magnification is necessary. Numbers are more readily adaptable to use in relation to computer operations which will utilize the grids. Numbers should represent the grid lines rather than the space between the adjacent lines.

D. Whatever grid is adopted should be uniform for all photographic systems.

E. Selection of Ticks: In the selection of ticks, consideration should be given to the possible use of electronic means to automatically count ticks and locate positions on the photography by means of the peripheral grid ticks. Possibly, some experimentation may be necessary to select or design ticks most suitable for this type readout.

2. A question has been raised regarding the ability to accurately and uniformly register the grid to the format of the photography. For PI target location purposes registry may not be of prime importance; however, use of the grid in precision measuring instruments for reference purposes may be a serious problem if accurate registry is not maintained.

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